

Title (en)

METHOD TO IMPROVE THE PERFORMANCE OF GALLIUM-CONTAINING LIGHT-EMITTING DEVICES

Title (de)

VERFAHREN ZUM VERBESSERN DER LEISTUNG VON GALLIUM ENTHALTENDEN LICHEMITTIERENDEN VORRICHTUNGEN

Title (fr)

PROCÉDÉ POUR AMÉLIORER LA PERFORMANCE DE DISPOSITIFS ÉLECTROLUMINESCENTS CONTENANT DU GALLIUM

Publication

EP 4052284 A1 20220907 (EN)

Application

EP 20882515 A 20201030

Priority

- US 201962927859 P 20191030
- US 2020058234 W 20201030

Abstract (en)

[origin: WO2021087274A1] Gallium-containing semiconductor layers are grown on a substrate, followed by dry etching of the gallium-containing semiconductor layers during fabrication of a device. After the dry etching, surface treatments are performed to remove damage from the sidewalls of the device. After the surface treatments, dielectric materials are deposited on the sidewalls of the device to passivate the sidewalls of the device. These steps result in an improvement in forward current-voltage characteristics and reduction in leakage current of the device, as well as an enhancement of light output power and efficiency of the device.

IPC 8 full level

H01L 21/20 (2006.01)

CPC (source: EP KR US)

H01L 21/0254 (2013.01 - EP KR); **H01L 21/02543** (2013.01 - EP KR); **H01L 21/02546** (2013.01 - EP KR); **H01L 21/0262** (2013.01 - EP KR); **H01L 21/02664** (2013.01 - EP KR); **H01L 33/24** (2013.01 - US); **H01L 33/32** (2013.01 - US); **H01L 33/44** (2013.01 - EP KR); **H01L 33/0062** (2013.01 - US); **H01L 33/007** (2013.01 - EP); **H01L 33/0095** (2013.01 - EP); **H01L 33/30** (2013.01 - EP)

Designated contracting state (EPC)

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DOCDB simple family (publication)

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